

COURSE OUTLINE

Week No.	Week of...	Lecture chapter	Topic (K&K = Kleppner/Kolenkow, <i>Intro. to Mechanics</i>) (French = Vibrations & Waves) (Feynman = <i>Lectures on Physics</i> Vol. II)	Problem Set No.	Due 5 PM on...	Lab
K&K						
1	24-Aug	1.1-8	Introduction; vectors, kinematics.			none (do experiment in lab=expt)
2	31-Aug	1.9-2.3	Motion in polar coordinates; Newton's laws; units.	1	Wed 2 Sep	(have discussion in lab=disc) expt
3	7-Sep	2.4-2.5	LABOR DAY HOLIDAY Application of Newton's laws; forces.	2	9-Sep	disc
4	14-Sep	3.1-Note3.1	Momentum; center of mass.	3	16-Sep	expt
5	21-Sep 24-Sep	4.1-6	Work; kinetic energy. EXAM 1 (covers PS 1-3)			disc
6	28-Sep	4.7-14	Potential energy; nonconservative forces; energy conservation; power; collisions.	4	30-Sep	disc
7	5-Oct	6.1-7	Angular momentum; fixed axis rotation; rotation with translation.	5	7-Oct	disc
8	12-Oct	7.1-5 8.1-8.4	Vector angular momentum; conservation thereof. Noninertial systems; fictitious forces.	6	14-Oct	expt
9	19-Oct	8.5-Note8.2 9.1-9.5	Rotating coordinate systems; equivalence principle. Central forces.	7	21-Oct	expt
10	26-Oct	9.6-9.7 French 10-15,43-45,77-89	Planetary motion.	8	28-Oct	disc
11	2-Nov 5-Nov	62-70,92-96	Damped forced harmonic oscillator. Transient response. EXAM 2 (covers PS 1-8)			disc
12	9-Nov	19-27,119-129 161-170,189-196	Coupled oscillator; beats. Fourier expansion in normal modes.	9	11-Nov	disc
13	16-Nov	201-209,213-215, 228-234	Waves: travelling, sinusoidal, modulated; phase and group velocity.	10	18-Nov	expt
14	23-Nov 26,27-Nov	45-62,209-212 170-178,274-279	Longitudinal waves; sound. Boundary reflections of waves; Doppler effect. THANKSGIVING HOLIDAY	11	25-Nov	disc
15	30-Nov	Feynman II.2-1,2,3,4,5;II.40-1,2,3	Fluid statics and nonviscous dynamics. LAST LECTURE (review)	12	Fri 4 Dec	disc
16	7-Dec 11-Dec	5-8 PM	FINAL EXAM (Group 9) (covers PS 1-12)			